Newspaper Clips
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Hindu ND 28.09.14 P-2

Home-bred innovations make life easy at IIT-D

Vijetha S.N

NEW DELHI: At the entrance of the Indian Institute of Technology-Delhi, every car is put through the usual security checks.

However, security check under the car here is not the usual mirror-at-the-end-of-a-stick business, but an automated system that is connected to the main monitor, that can tell in an instant if something is wrong.

This old innovation by the faculty is now part of campus life, just like waterless urinals that have made the smell associated with public urinals disappear, and their intra-communications systems that has replaced files and made administrative life that much easier.

Using the latest innovations and technologies of its faculty and students for better functioning is now the norm at the Institute.

"You cannot claim to be at the cutting edge of tech-

Security personnel checking a vehicle going over the security system installed at the main entry gate of the Indian Institute of Technology-Delhi. – PHOTO: RAJEEV BHATT

> "We may be functioning out of a building that was made in the 1970s, but we do not really function like we are in the 1970s"

nology if you have to wait for weeks on end to get the correct signature sanctioning your travel plans or leave," said Professor Suneet Tuli.

His job as Dean of Re-

search and Development, involves approving any research plans that the faculty is undertaking as well as countless other ancillary actions that arise from this.

His innovation — "Iris" — is an intranet communications system that links the entire faculty.

"Want approval for recruiting assistants? Just write a note on this system; Want to go abroad for a seminar? Just write a note and the requisite authorities approve it through the sys-

tem," he said, adding most failures in India can be attributed to files not moving and people wasting time trying to check up on them.

"Piles and piles of paperwork that needed signatures, with clerks carrying it to and fro, phone calls from faculty and students asking the status of their applications—all this has vanished. We may be functioning out of a building that was made in the 1970s, but we do not really function like we are in the 1970s," he said.

Making restrooms odour-free and other novel ideas

Every year, the Indian Institute of Technology-Delhi opens its doors to the public, with its "Open House" showcasing innovations that its faculty and students have been working on all year through.

From fantastic robots and chemicals that help you look after your clothes in a better way to providing something that eases the life of the differently-abled — the show has it all.

But how many of them actually make it to real world and become part of everyday life like every good invention should?

"We may have our venture capitalists and we might have an institute like IIT behind us, but in this country, it is still very difficult to find people who can help you fail," said Vijayaraghavan Chariar, whose "waterless urinal technology" is one of the most recent success stories of the "Open House".

The risk factor in an area like sanitation is something that corporate houses are not ready to take on, Dr. Chariar feels. Funding for his research was mostly from NGOs and others who had socio-development on their agenda.

This is mainly because the urinal harvests the "phosphate" in urine, which can then be used as a fertiliser.

Although, there are other waterless urinals, this one's "harvesting" power is what gives it the edge, said Dr. Chariar, adding

Professor Vijayaraghavan Chariar explaining his waterless urinal technology. – FILE PHOTO: MEETA AHLAWAT

that in a country where access to water is such a big problem, a waterless urinal is the need of the hour. And more so, to meet the goals of water conservation and organic fertilisation.

Inside IIT-Delhi, however, the urinal is already a big success.

"The now-odourless men's rooms in the institute are all thanks to the waterless urinal technology," said Professor Suneet Tuli, Dean of

Research and Development, while revealing plans to open a mini-science park on campus in addition to their other industrial research centre's which help incubate new ventures.

"We as scientists and academics are not really good at figuring out the nitty-gritty of commercialising an invention, so we have a separate body that forms the interface between the research or innovation and the markets," he said, adding that there were several other "Open House" stories that had seen commercial success in the real world.

"We are proud of a lot of ventures that have been incubated in IIT-Delhi and displayed during the 'Open House'. There is the *gram vaani*, a cheap communication tool that helps villagers get relevant information about other villages. Then there is the eco-friendly printing ink and the security scanners that we use to scan vehicles entering IIT. These are also incubated products," said Prof. Tuli.

The Institute helps innovators with the initial grants that are given to every new faculty member, but as far as getting grants for research is concerned, faculty member have to get their own funding, that is usually controlled by the Institute.

"My research cell normally has Rs.100 crore in reserves at any given time," he said, adding that the better the research of a faculty member, the better his career prospects become at the institute.

Arvind Kejriwal's daughter to enter politics, with AAP student wing in IIT Delhi

http://ibnlive.in.com/news/arvind-kejriwals-daughter-to-enter-politics-with-aap-student-wing-in-iit-delhi/502356-37-64.html

New Delhi: AAP national convener Arvind Kejriwal's daughter Harshita has decided to make her foray into politics by joining the party's student wing the Chhaatra Yuva Sangharsha Samiti (CYSS), which was launched on Saturday.

The daughter of the former Delhi Chief Minister will launch and expand CYSS in IIT Delhi, where she is currently pursuing her graduation.

The youth wing, which was launched today, will have its presence in 50 colleges in the national capital, apart from Delhi, Jamia Milia and Jawaharlal Nehru universities.

The daughter of the former Delhi Chief Minister will launch and expand CYSS in IIT Delhi, where she is currently pursuing her graduation.

There were questions on whether Harshita would join the CYSS to which an announcement was made here at Ghalib auditorium that she would expand the student's wing in IIT Delhi.

Harshita scored 96 per cent in the board exams and cleared the JEE exam to get into IIT Delhi.

Arvind Kejriwal himself is an engineering graduate from IIT Kharagpur. Besides, he even cleared the Indian Revenue Service (IRS) Exam before leaving the civil services to join social service and later politics.

Whistleblower professor asked by IIT Kharagpur to appear before board-appointed panel

http://timesofindia.indiatimes.com/india/Whistleblower-professor-asked-by-IIT-Kharagpur-to-appear-before-board-appointed-panel/articleshow/43580869.cms

NEW DELHI: Even as IIT Kharagpur professor Rajeev Kumar's appeal against "biased inquiry" is still pending with visitor Pranab Mukherjee, the institute on Thursday asked him to appear for a personal hearing with the board-approved committee on October 13 failing which he will be compulsorily retired. The personal hearing is the penultimate step before passing the final order of the penalty in the disciplinary proceedings initiated against Kumar in May 2011.

Kumar was suspended in May 2011 and was issued a chargesheet. He was charged for "irreparably damaging the reputation of the institute by deliberate misrepresentation of facts of irregular purchase and financial fraud regarding laptop purchase." Subsequent to Kumar's raising the exorbitant rates of laptop in the rate-contract, IIT halted the laptop purchase. CVC in its affidavit in the Delhi High Court stated, "The alleged purchase of laptop was not operated. Hence the basic allegation made by the complainant Rajiv Kumar was addressed."

Kumar was also alleged to have brought unsubstantiated allegation of damaging the reputation of the Institute by talking to media. Kumar's PIL has brought about systematic reforms in IIT, be it providing carbon copy of answer scripts, release of answer keys before results, online availability of evaluated scanned scripts and multiple rounds of admissions among other things. Two independent benches of Supreme Court acknowledged Kumar's positive work and termed him as one of the many "unsung heroes" who helped in improving the system.

Since his suspension in May 11, Kumar has been raising the issue of continuation of suspension beyond 90-days without any review, and IITs' constituting a 'biased inquiry' for denial of natural justice and fairness.

In several office memoranda since November, 2011, CVC repeatedly directed HRD's chief vigilance officer to look into the above issues. After receiving repeated queries from CVC, HRD's CVO in October, 2012 directed the institute for review of suspension and placing the allegations of biased inquiry before the reviewing authority, who is the Visitor as per the statutes. On ministry's directions, IIT revoked the suspension, in April 2013. However, while Kumar's appeal of the biased inquiry is pending with the visitor, IIT proposed a penalty of compulsory retirement in June this year.

Hindustan Times ND 28/09/2014

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7,000 IP university aspirants in a fix

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> IF RULES STATE THAT THE ADMISSION PROCESS SHOULD CLOSE BY THE END OF AUGUST, WHY DID THE UNIVERSITY ANNOUNCE A SPECIAL SESSION IN THE FIRST PLACE?

SANJAY, an aspirant

NEW DELHI: The future of nearly 7,000 students who appeared for the Common Entrance Test (CET) for admission in colleges affiliated to the IP University is hanging in balance.

The university, which had announced that special counselling sessions would be conducted by the end of August, has now decided to cancel this session, leaving the students without admission and many colleges without students.

The university had come out with a notification on August 28 regarding a special round of counselling to fill vacant seats in various colleges affiliated to it. It said students who had submitted the fee but did not get a seat on the previous counselling sessions were eligible to appear for this special session. In addition to these students, those who had not submitted the fee earlier were given the opportunity to register and appear for the counselling.

The university cancelled the counselling after a few institutes went to court saying that a new counselling session now would result in reshuffling of students and seats becoming vacant at the last hour.

The university took back the notice for special counselling session following this and cancelled it.

Added to this is the rule that universities must close their admission sessions by the end of August.

"In this whole process, we have been the biggest losers. We submitted the fee and were ready for counselling but all of a sudden this bombshell was dropped on us. Many of us have left behind other options to pursue this. What will happen to us now? If rules state that the admission process should close by the end of August, why did the university announce a special session in the first place? We just want that this opportunity not be taken away from us," said Sanjay, an aspirant.

The aspirants have also written a letter to the HRD minister, requesting her to look into the matter and provide relief.

The university spokesperson did not reply to calls and messages despite repeated attempts.

Turmeric could help brain heal itself

Heather Saul

An Indian spice commonly used in curries could help the brain heal itself, new research has suggested. A report in the journal Stem Cell Research and Therapy found a compound in the curry spice turmeric may hold the key to repairing the brains of people with neurodegenerative diseases such as Alzheimer's.

A team in Germany say aromatic turmerone promoted the proliferation of brain stem cells and their development into neurons during laboratory tests on rats.

Rats were injected with the compound and scientists from the Institute of Neuroscience and Medicine in Julich scanned their brain.

The team examined the effect of aromatic turmerone on endogenous neutral stem cells (NSCs) found within adult brains.

NSCs go on to develop into neurons, and play an important role in recovery from neurodegenerative diseases. They found that the turmeric compound boosted the proliferation of rat foetal NSCs by up to 80 per cent, and increased the speed at which they matured.

In living rats, injections of aromatic turmerone led to the expansion of two key brain regions where the growth of neurons is known to take place.

Dr Laura Phipps, from Alzheimer's Research UK, said: "This early-stage study highlights the effects of aromatic turmerone in rat brains, but the findings are a long way from determining whether this compound could help fight diseases like Alzheimer's. It's not clear whether the results of this research would translate to people, or whether the ability to generate new brain cells in this way would benefit people with Alzheimer's disease. We'd need to see further studies to fully understand this compound's effects in the context of a complex disease like Alzheimer's." THE INDEPENDENT

Hindustan Times ND 29/09/2014   P-13

IIMs, IIITs and central varsities still headless

VACANT Heads of 25 top educational institutions yet to be appointed despite selection process completed months before

Brajesh Kumar
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NEW DELHI: The NDA government has a major task ahead of it — finalising the appointments to various key institutions of higher learning.

Three Indian Institutes of Management (IIM), 10 Indian Institutes of Information Technology (IIIT) and 12 Central universities are headless with the human resource development (HRD) ministry yet to give its final approval to the appointments despite all the formalities for their selection completed a few months ago.

The tenure of Devi Singh, the former director of IIM Lucknow came to an end on March 9 this year. The process for appointing the next director was started in January. A search-cum-selection committee was set up. The list of candidates was submitted to the ministry in June. Since then the final approval is pending with the HRD ministry.

Much like IIM Lucknow two other IIMs — Ranchi and Kozhikode — have been waiting for a word on their new directors.

While the tenure of IIM Kozhikode director Debashis Chatterjee came to an end in April this year, MJ Xavier resigned as director of IIM Ranchi in September last year.

AC Muthiah, the chairman of IIM Kozhikode, confirmed that the search and selection committee sent in its recommendations to the HRD ministry a couple of months back.

"The short-listing of candidates for the director's position was done a while back but we haven't heard from the HRD ministry," he told HT.

Higher education secretary Ashok Thakur could not be contacted for his comments, though sources in the ministry indicated the government is keen to scrap most of the selection-cum-search-committees and their recommendations and start the process of appointments afresh.

Illustration: ABHIMANYU SINHA

Times of India ND 29/09/2014   P-4

Three IITs develop cement low on carbon content

New Product As Strong As Regular Cement, Likely To Take Pressure Off Depleting Limestone Reserves

TIMES NEWS NETWORK

New Delhi: Buildings in the city may soon be able to reduce their carbon footprint, though by a slim margin, thanks to low-carbon cement or 'LC3'. Scientist at IIT Delhi, along with IIT Bombay, IIT Madras and an environmental NGO called Development Alternatives (DA), have developed a type of cement that is not just low-cost, but can emit 20% to 30% less carbon than regular cement. For every tonne of cement produced, about 0.82 tonnes of CO2 is emitted.

The most energy-intensive part of cement production is making clinker—grey balls of ground limestone and clay made by heating them at very high temperatures. These are then ground into a fine powder to make cement. CO2 is a byproduct of this process, which is why cement production is a contributor of global warming. Cement usually contains about 70% of clinker and 30% fly ash.

IIT scientists have developed a variety of cement using just 40%-50% clinker and have supplemented it with low-grade calcined clay and low-grade limestone, which researchers say are being wasted. "Calcined clay is essentially China clay waste that is burnt. There are no takers for low-grade limestone in mines. The cement we have developed will have a major impact on India's limestone reserves that are depleting. Since this technology requires less limestone, the reserves will last us longer," said Shashank Bishnoi, assistant professor, department of civil engineering, IIT Delhi.

It took the three IITs over a year to develop the new variety of cement. IIT Delhi began the project in 2013 with DA. The other IITs were

BREAKTHROUGH

GREEN MATERIAL

▶ What scientists claim about the new cement

▶ Has the potential to extend the life of limestone reserves from the current estimates of 50 years to 75 years

▶ Will emit about 20-30% less CO2 than regular cement

▶ A production of 300 million tonnes of low-carbon cement will reduce CO2 emissions by approximately 80 million tonnes every year

▶ Increased availability of resources to produce cement will prevent runaway rises in its price and, therefore, cost of building houses

roped in this year.

"We found that the new cement is almost as strong as regular cement. The quality has been tested at IIT-D and Development Alternatives' laboratory too. In fact, we have built a two-storied building in Jhansi using the cement," added Bishnoi.

However, it will still take a few years before the cement is made commercially available. It needs a Bureau of Indian Standards (BIS) certification and standardization before it can be used on a large scale. Such standardization often takes up to ten years but industry bodies and scientists are keen

that the shift be made within five years.

The project, funded by Ecole Polytechnique Fédérale de Lausanne, Switzerland, was also done in Switzerland and Cuba. Unlike India, Cuba is planning to convert all old cement plants to this new technology by next year.

"No sector of the economy consumes more material than construction and of all the materials used in construction, cement accounts for the largest share of resources extracted from nature. Obviously, any saving can yield a huge benefit for the environment," said Ashok Khosla, chairman of DA.

HT.Com ND 29.09.2014 P-6

ENGINEER YOUR SUCCESS

SECTOR WATCH

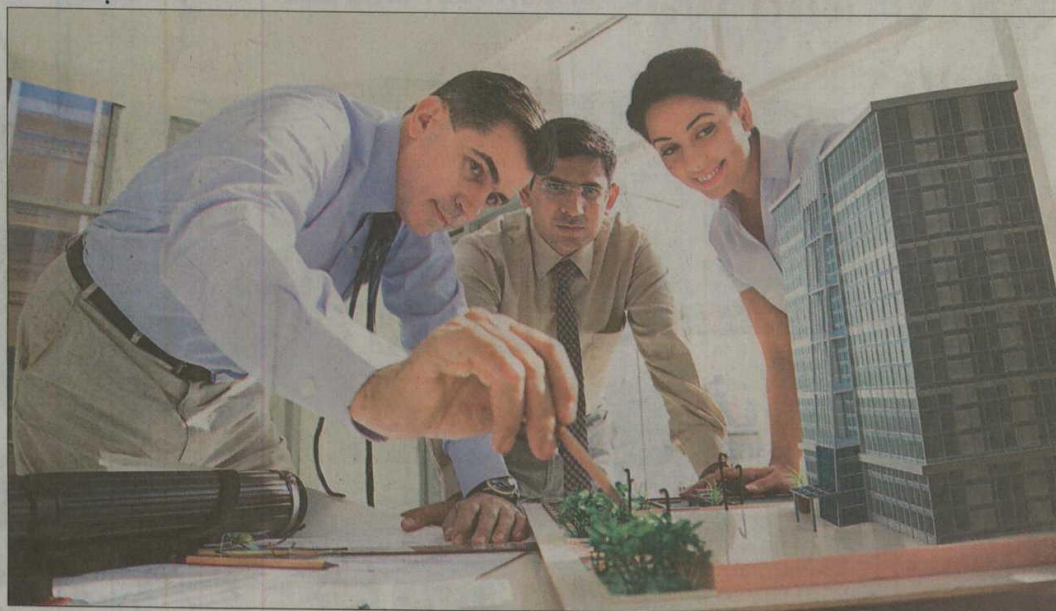NASSCOM skills survey shows that only 27% of engineering graduates in India are employable.

Proyashi Barua

India has always been globally acknowledged as a veritable powerhouse of engineering talent. "After all, some of the best engineers in the world are Indians," says Shekhar Sanyal, director and country head IET (The Institution of Engineering and Technology). Around 1.2 million engineers graduate every year in India.

However, the engineering sector is losing its edge. The NASSCOM (The National Association of Software and Services Companies) skills survey shows that only 27% of engineering graduates are employable. Endorsing this fact, Sanyal adds, "According to the National Council of Applied Economic Research (NCAER), there will be a shortfall of about 2.5 million employable engineers by 2020."

So what exactly is the problem with sector? "Most of our engineering colleges have not embraced the concept of application-based learning," says Sanyal. In addition to this, many colleges do not secure practical training by way of apprentice/internship opportunities. "This issue can be substantially resolved by making it mandatory for various organisations/government departments to employ apprentice/trainees. The academic curriculum should be tailormade to correspond to the specific requirements of the industries. Periodic reviews also are a must," says RN Arora, vice president and branch head, REPL, a real estate consultancy firm that employs engineers.

Sharing his views on the subject of upgrading the engineering pool, Sanyal says, "Our engineers should be able to communicate, collaborate and work efficiently with peers from around the world. For this, in addition to sound theoretical foundation, communication skills and confidence are important. This is where professional bodies like the IET can play a significant role by organising national and international competitions. These competitions are much-needed platform for engineers to put their knowledge into practice in a multidisciplinary and real-life context. For instance, the IET India Scholarship Awards test students on their potential to come up with viable technological solutions in relation to civic problems."

He also added that "the IET also works with academia and industry to upskill the engineering workforce and help them gain international accreditation and professional qualifications."

Vidur Gupta, director, Spectrum Talent Management, adds, "Most of the leading technical institutions around the world have relevant curriculum that covers practical aspects like man management, interdisciplinary teamwork, organisational behaviour, etc. Indian institutions, however, focus mostly on the core subject, leaving less room for such important aspects of the professional world that a future engineer would be expected to deal with/exposed to. Our pedagogy and curricula need to incorporate

all these subjects."

The silver lining comes by way of the training and development initiatives that many organisations are undertaking for the engineers that they hire in their workforce. "We conduct various induction and development programmes for engineers that focus on campus to corporate conversion training as well as technical and behavioural training. We also train our engineers on integrated management systems and corporate governance," says Saurabh Kholkute, vice president, corporate human resources, Suzlon Energy Ltd.

■ It has been observed that civil engineering tops the list of choices as far as women aspirants are concerned.   IMAGESBAZAAR

HT.Com ND 29.09.2014 P-6

■ The demand for core engineers are on rise.

IMAGESBAZAAR

Demand for engineers on the rise in India

Proyashi Barua

The government's move to add more IITs to incorporate digital learning and focus on improving vocational training skills will go a long way in improving the engineering landscape.

Despite the challenges, the engineering sector in India is entering an interesting phase. Elaborating on current and upcoming trends, Shekhar Sanyal, director and country head IET (The Institution of Engineering and Technology) says, "The demand for core engineers – mechanical, electrical and civil is on the rise. After the dot com bubble burst in 2000, India became the most attractive destination for internet and IT services. India was rich in terms of quantity and quality of brainpower and also a cheaper destination for multinational companies seeking the kind of talent. This steered a new trend among aspiring engineering students to opt for the infor-

> After the dot com bubble burst in 2000, India became the most attractive destination for internet and IT services.
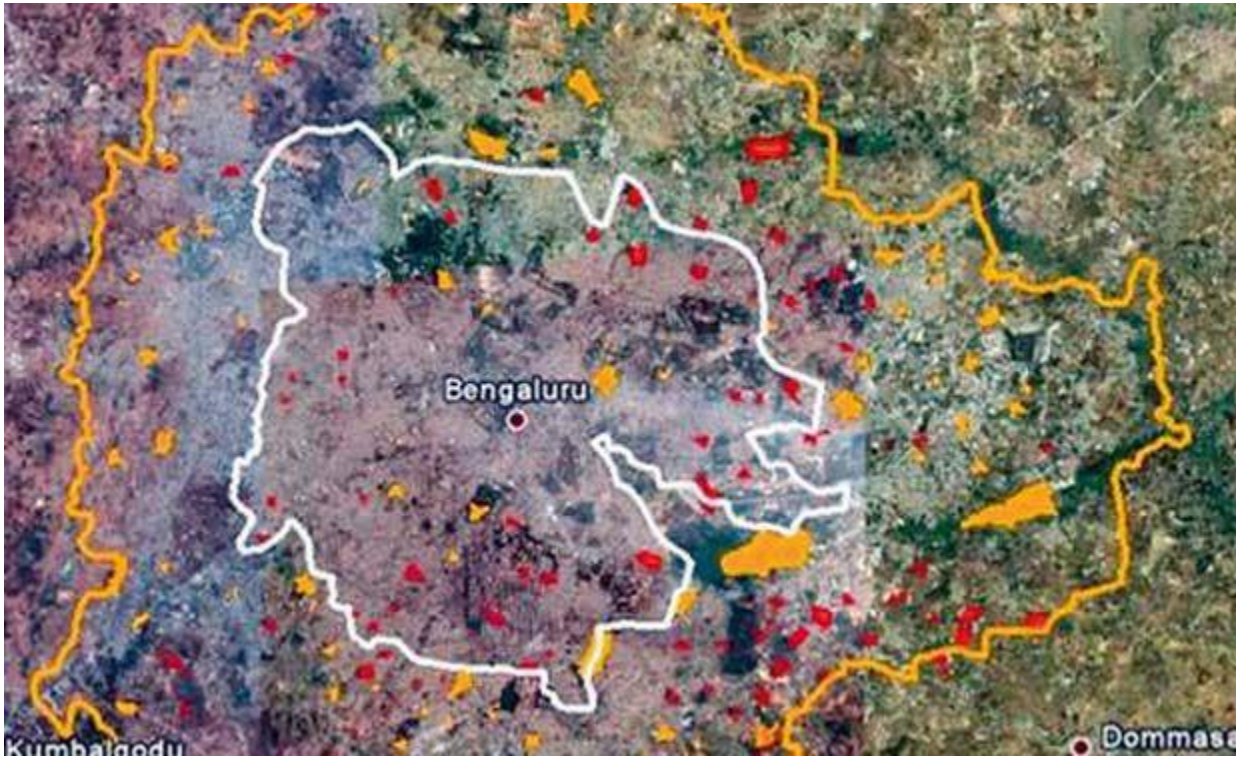> SHEKHAR SANYAL, director and country head, institution of engineering and technology

mation technology and computer science specialties, resulting in rapid increase in the number of engineering colleges across India offering IT engineering education."

Sanyal says that during the IET's recent dialogue with select affiliates and partner colleges across India, it has been observed that there has been a noticeable shift of interest among aspiring engineers towards core engineering courses like civil, electronics/electrical and mechanical engineering. "Infact, civil engineering tops the list of choices as far as women aspirants are concerned," he adds.

Five years on, no action on IISc report

DC CORRESPONDENT | September 29, 2014, 03.09 am IST

http://www.deccanchronicle.com/140929/nation-current-affairs/article/five-years-no-action-iisc-report

Bengaluru: In 2009, researchers from the Indian Institute of Science had prepared an extensive flood map of the city and had suggested a number of short-term and long-term measures. The report was submitted to the state government, Ministry of Home Affairs and National Disaster Management Authority.

The report had suggested that the storm water drains had to be cleared for flood waters to flow freely.

Since then, the government has not moved an inch to restore the storm water drain network in the city because of which flooding has become a common phenomenon. The monsoon preparedness of city agencies was once again exposed last week when the city received over 100 mm rainfall in just 48 hours.

The researchers, who worked on the case study of Bengaluru flooding, are upset. They feel that the government agencies do not take the research papers seriously. "So far, only two engineers from the BBMP came to us discussing about the strategies for mitigating urban floods. After that nothing happened on the report, which also lists the reasons and practical solutions to bring down flooding. Removal of encroachments on storm water drains and not allowing fresh encroachments were the major recommendations made, but not followed by the government. The authorities still allowed change in land use and several storm water drains are today buried under apartment complexes," said Dr T.V. Ramachandra from the Energy and Wetland Research Group, IISc.

He said that the lakes in the city were interlinked once, and the excess water flowed from one tank to another ensuring that the city was not flooded. "But unplanned urbanisation and encroachments on the waterways have drastically altered the drainage characteristics of natural catchments in Bengaluru. This has also increased the volume and rate of surface runoff. Drainage systems are unable to cope with the increased volume of water and are often encountered with the blockage due to indiscriminate disposal of solid waste.

Encroachment of wetlands and floodplains obstructs floodways causing loss of natural flood storage," he said.

ISM marshals hopes for IIT status

- Modi likely to nix panel's adverse report

http://www.telegraphindia.com/1140929/jsp/frontpage/story_18883543.jsp#.VCkDaBb6O4s

New Delhi, Sept. 28: It may be too early for students and teachers of ISM-Dhanbad to rejoice, but they can let their hopes for an IIT status soar.

Prime Minister Narendra Modi seems set to keep his promise of converting the prestigious cradle into an IIT even though an expert panel formed to look into the plea is against an upgrade.

According to highly placed sources in the Union HRD ministry, the Modi government is likely to overrule a report by the panel, headed by former director of IIT-Bombay professor Ashok Mishra, which has advised against conversion of ISM into an IIT.

The argument of the panel, which also has IIT-Madras director Bhaskar Ramamurthy and former director of IIT-Jodhpur professor Prem Kalra as members, is that such rampant conversions dilute the IIT brand.

Besides, the report said past experiences of upgrading engineering institutions into IITs had not proved to be beneficial in terms of academic and research output.

Incidentally, the report was to be discussed at a meeting of the IIT Council, headed by Union HRD minister Smriti Irani, last Monday. But, it was not placed because, insiders claim, Irani was not happy with the committee's recommendation. "The report may be overruled," said a source.

This, perhaps because the same has gone against what Modi had promised to the people of Dhanbad in the run-up to the Lok Sabha polls in April.

Slamming the previous UPA government for not granting IIT status to ISM, Modi had said at an election rally: "ISM is one of the most prestigious institutions of Asia, but I can't understand why people sitting in Delhi can't give it IIT status."

The huge applause he received translated into votes later on, with the BJP winning as many as 12 of the 14 Lok Sabha seats in Jharkhand, including Dhanbad. Now, the state's coal capital is expecting the Prime Minister to fulfil his promise.

"I have heard that the expert committee report does not favour an IIT status for ISM. But the Union HRD minister's decision will be final. We are keeping our fingers crossed," ISM registrar Col (retd) M.K. Singh said.

ISM's conversion into an IIT has been in discussion for four years. The 12th Plan document, approved by the Prime Minister-headed National Development Council, had provided for the conversion. The Mishra committee was set up as a follow-up action.

A centrally funded technical institution, ISM was set up by the British in 1926 and was accorded deemed-to-be university status in 1967, nine years after IISc Bangalore bagged the same tag.

According to the institute's website, it offers BTech, MTech and PhD programmes and has 18 departments, most of which are engineering branches.

Known for its cutting-edge research in areas of mining and minerals, ISM admits students for BTech courses through the same JEE-Advanced exam as the IITs. This year, it participated in the international ranking process of London-based Times Higher Education.

ITs teach students communication skills, not just engineering

Hindustan Times (Mumbai)

MUMBAI: Even as the Indian Institutes of Technology (IITs) are among India's elite institutions, many of its students come from modest backgrounds, creating disparity, especially in areas of social conduct, communication, and soft skills. The lack of confidence and fear of debate is one of the most common problems that students face, particularly during their first year. This has prompted several IITs to take steps to help students brush up their skills.

At IIT-Roorkee, a mandatory communication skills programme for first-year students is set to be introduced, which will be available free of cost. "Last year, we had a communication skill class for students of third year, to prepare them for placements. We found that the classes had proved very useful and have therefore decided to make it a regular feature, especially for the first-year students," said Pradapita Banerjee, director, IIT-Roorkee.

Students help young 'techies' innovate at IIT Bombay

http://indianexpress.com/article/cities/mumbai/students-help-young-techies-innovate-at-iit-bombay/
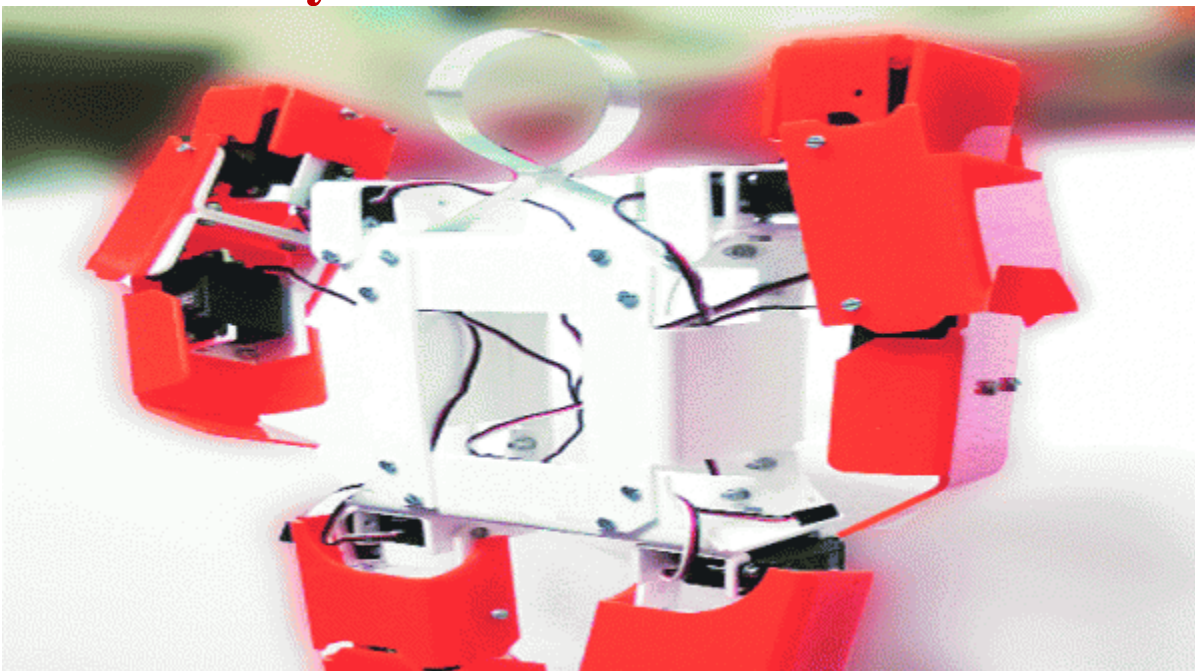
The institute technical summer projects (ITSP), started by IIT Bombay's Students' Technical Activities Body (STAB) to explore the 'techie' among freshers, has seen a huge jump in registrations, from 16 projects in its inception year, 2010, to 121 in 2014.

The institute pays for the entire project and it has led to interesting innovations this year such as an intelligent walking stick for the blind that detects obstacles using ultrasonic sensors and generates audio commands to guide the user, a hovercraft which can changing the orientation of its propellers and convert into a helicopter for security surveillance, an all-terrain robot to help researchers, a gesture controlled glove that converts gestures into words for the mute, an 'invisible' Braille reader that is portable and helps the visually challenged to read books and a music player controlled by eyes.

The projects will be showcased next month on campus. "The STAB comes under IIT Bombay's dean of students' affairs. In April each year, we call for ideas from first year students and the idea is to give them hand-on experience. Instead of freshmen selecting any random project from any random field, this year we encouraged them to decide their interest first and choose the idea from that specific field, be it social or industrial. We saw students developing technologies in healthcare, agricultural, security surveillance and other industrial areas," said Rahul Prajapat, overall coordinator of IIT Bombay's STAB.

He said STAB supervises the amount of funding required for the projects and each team is approved Rs 5,000 to Rs 10,000. "There is an initial demonstration in the May and the final demonstration takes place in June, before faculty members, doctorate students and Mtech students.

Further, the prototypes, which have the potential to be converted into marketable products, are reviewed at 'Technovation', an innovation programme under STAB, which encourages students to do real life application oriented projects," said Prajapat. At Technovation, teams get larger amount of support in terms of funding as well as mentorship and infrastructure. A project can receive funding of up to Rs 1 lakh.

Among the ones being manufactured or in their final stages include a campus transport tracking system, which was initiated in 2012 and 20 of them will now be installed inside IIT Bombay's 'tum-tum' campus buses, unmanned aerial vehicles capable of assisting in search and rescue operations during natural disasters, a Braille display for visually impaired people and a low cost CNC laser cutting machine, which are currently imported at high prices with added shipping and customs costs in India, and are used in manufacturing, fashion and textile, plastics, and rubber industries.

- See more at: http://indianexpress.com/article/cities/mumbai/students-help-young-techies-innovate-at-iit-bombay/#sthash.lUCSjgE3.dpuf

Financial Express ND 29/09/2014   P-12

Bringing India and Bharat closer

Standards of skills need to be established specifically for the unorganised sector

RAJESH TANDON

Across the developing world, there are conferences being held on the need for skill development. And in countries such as India which have embarked upon a trajectory of rapid economic growth, skill development is being touted as a big game-changer. Various schemes have been formulated to promote skill development in order to utilise the demographic dividend.

When the National Skill Development Corporation (NSDC) was launched in India three years ago, it was envisaged that nearly 500 million persons will have acquired new skills through a formally recognised programme. NSDC only agreed to look after 30% of these through a business model of public-private partnership; it listed 21 skill-sets as its focus, the 21st being the 'unorganised sector'. The governing board of NSDC comprises of private business leaders and government officials; it provides loans and guarantees, no grants. Students are expected to pay for learning skills, mostly after completing high school level education.

The above approach to skill development is pretty standard; it is linked to employability, and curriculum and pedagogy are prepared in partnership with employers. A recent World Bank report, "Flexibility, Skills, and Employability", recommends that pathways to skill learning should be flexible and multiple, though necessarily linked to employment opportunities.

This approach to skill development misses out three important aspects. The first and foremost issue is the nature of the economy and the workforce in a given country. Most developing countries, including In-
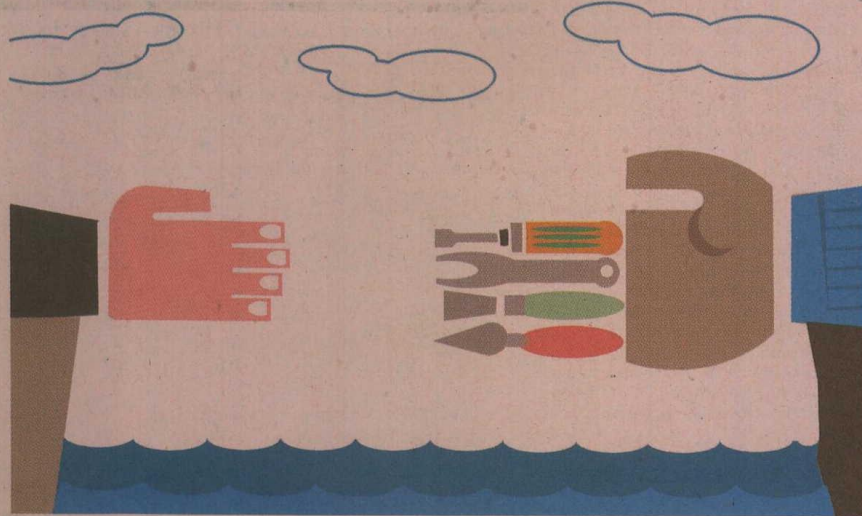
dia, have a huge unorganised sector, and therefore a substantial percentage of informal workforce. A recent analysis of the National Statistics Committee in India, set up in the wake of the recommendations of the National Commission on Employment in the Unorganised Sector (2008), has distinguished between the segments of economy which are unorganised, and segments of workers who work in an informal manner. These estimates suggest that unorganised sectors (including agriculture and allied activities) contribute more than 50% to India's economy; nearly four-fifths of the entire workforce in India is informal (including those who are self-employed in household enterprises).

Therefore, a national policy on skill development must come to terms with this reality. What mechanisms are needed for skill development for women vendors, masons, drivers, plumbers, carpenters, shop-keepers, home-delivery boys, domestic cleaners, cooks, etc? The first 20 sectors mentioned in the NSDC list of

> **The governing board of NSDC comprises of private business leaders and government officials; it provides loans and guarantees, no grants. Students are expected to pay for learning skills, mostly after completing high school education**

skill-sets each have a major component of informal workers, and unorganised sector; how is this going to be addressed? In textiles, for example, how will the skills of small tailoring outfits in each neighbourhood be included? In construction, how the skills of making brick kilns from mud (and then baking them) be provided for? What about the skills of 'cleaners' who accompany drivers on lorries? Should there be a distinction made for drivers of small cars

and BMWs? In the absence of inclusion of such informal workers and unorganised sectors of economic activities, a large proportion of India's workforce will not be able to benefit from these policies.

The second aspect not adequately considered in these policies is about learning of skills; there is an assumption that new skill development programmes in formal institutional settings would be launched. In most cases mentioned above, skills are acquired in non-formal and informal ways; most vendors become skilful accountants by doing so; most masons, carpenters, cleaners, farmers, etc, learn skills by working. Learning by doing is a well-established pedagogy. What such 'skilled professionals' (women vendors, toddy tappers, compounders, cleaners, home-based attendants and many others) need is a system that recognises their already existing skill-sets; 'recognition of prior learning' is critical for such a vast number of workers. In addition to recognition, standards of skills need to be estab-

lished specifically for the unorganised sector (since working conditions and market factors vary considerably between the organised and unorganised sectors of economy). Accreditation processes and mechanisms need to be put in place in a highly decentralised manner such that informal sector of the workforce can access these easily. Once recognition of existing skills-sets has occurred, systems for upgradation of the same can be planned.

It is unfortunate that this penchant for formal schooling and training in countries like India has delegitimised the enormous power and continued relevance of non-formal and informal learning in the lives of a vast majority of people worldwide.

Third, there is a tendency in these policies to focus narrowly on those skill-sets which are tightly linked to employment, income and economy. Such a pervasive perspective tends to overlook the equity and transformative dimensions of skill development (as highlighted during the 3rd World Congress on TVET in Shanghai earlier this year). What skill-sets are primarily important from a societal lens, not just economic lens? In Europe and North America, the policies of lifelong learning have taken a holistic perspective about skills beyond 'economic vocation' (as much of vocational education tends to be). Social and citizenship skills are also valued, and provided for in such policies. Viewed in a societal lens, many new skill-sets may be included in the policies of agencies like the NSDC.

These issues need to be brought into mainstream policy discourse by civil society efforts, which should also perhaps claim its own representation on existing policy institutions like the NSDC. In the absence of such an approach, the existing economic divide between India and 'Bharat' may get deepened further.

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Illustration: ASIT BAGCHI

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Scientists sneak Dylan lyrics into research articles

London: Five Swedish scientists who have been quoting Bob Dylan lyrics in research articles for the last 17 years are running a wager on who can squeeze in most of the American singer's songs in their articles.

The game started 17 years ago when two Professors from the Karolinska Institute in Stockholm, John Jundberg and Eddie Weitzberg, wrote a piece about gas passing through intestines, with the title 'Nitric Oxide and inflammation: The answer is blowing in the wind'.

"We both really liked Bob Dylan and

THE SCIENCE IT IS A-CHANGIN'

we thought the quotes really fitted nicely with what we were trying to achieve with the title," Weitzberg told 'The Local'.

The pair decided to stick to the theme and quoted other lyrics into their work, including one entitled 'The times they are a-changing'.

"We're not talking about scientific papers — we could have got in trouble for that — but rather articles we have written about research by others, book introductions, editorials and things like that," said Weitzberg.

A few years later a librarian spotted an article written by two other medical

professors working at the same university titled 'Blood on the tracks: a simple twist of fate', incorporating the name of both a Bob Dylan album and one of his tracks.

The librarian then connected the foursome. Junberg and Weitzberg then invited their colleagues to take the idea to the next level and they started competing to see who could get the most Bob Dylan lyrics into their articles before retirement.

Another colleague, Kenneth Chien, Professor of Cardiovascular Research, has also joined the contest.

The winner will get lunch in a restaurant in Solna, north of Stockholm. PTI

Power boost for mobile devices

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Washington: Scientists have developed a new technology that could lead to gen-next wearable computers with self-contained power sources and smartphones that do not die even after hours of heavy use.

The technology could reduce energy consumption in mobile devices and computers by tapping into the power of a single electron to control energy consumption inside transistors, which are at the core of most modern electronic systems.

Researchers from the Erik Jonsson School of Engineering and Computer Science at the University of Texas at Dallas found that by adding a specific atomic thin film layer to a transistor, the layer acted as a filter for the energy that passed through it at room temperature.

PROLONGED SUPPLY

The signal that resulted from the device was six to seven times steeper than that of traditional devices. Steep devices use less voltage but still have a strong signal.

"The whole semiconductor industry is looking for steep devices because they are key to having small,

powerful, mobile devices with many functions that operate quickly without spending a lot of battery power," said Dr Jiyoung Kim, professor of materials science and an author of the paper.

"Our device is one solution to make this happen," said Kim.

Tapping into the unique and subtle behaviour of a single electron is the most energy-efficient way to transmit signals in electronic devices. Since the signal is so small, it can be easily diluted by thermal noises at room temperature. To see this quantum signal, engineers and scientists who build electronic devices typically use external cooling techniques to compensate for the thermal energy in the electron environment. PTI

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New tech to reduce battery consumption

Asian News International

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WASHINGTON: A team of researchers at the University of Texas have created technology that could be the first step toward wearable computers with self-contained power sources or a smartphone that doesn't die after a few hours of heavy use.

Jiyoung Kim and Kyeongjae KJ Cho found that by adding a specific atomic thin film layer to a transistor, the layer acted as a filter for the energy that passed through it at room temperature.

Lower power devices could mean computers worn with or on top of clothing would not require an outside power source.

'Anti-Facebook' social network creates a buzz

Washington: In a matter of days, the new social network Ello, described as the 'anti-Facebook' for its stand on privacy and advertising, has become perhaps the hottest ticket on the internet.

Created last year as a 'private' social network, Ello recently opened its doors on an invitation-only basis.

Because of the limited supply and strong demand, the invitations have been selling on eBay at prices up to $500. Some reports said Ello is getting up to 35,000 requests per hour as a result of a viral surge in the past week.

Ello appears to have caught on with a simple message that seems to take aim at frustrations of Facebook users. "Ello doesn't sell ads. Nor do we sell data about you to third parties," the company says. Its "manifesto" states: "We believe a social network can be a tool for empowerment. Not a tool to deceive, coerce, and manipulate — but a place to connect, create, and celebrate life. You are not a product."

Ello's policy states that the practice of collecting and selling personal data and mapping your social connections for profit "is both creepy and unethical."

"Under the guise of offering a 'free' service, users pay a high price in intrusive advertising and lack of privacy."

Based in Vermont, Ello

© Freitag/Corbis

SAY HELLO TO 'ELLO'

was launched by a group of artists and programmers led by Paul Budnitz, whose previous experience include designing bicycles and robots.

Budnitz says on his page that Ello was designed to be 'simple, beautiful and ad-free'. Nathan Jurgenson, a social media researcher at the University of Maryland, welcomed Ello's fresh approach.

"I love these moments of new social media when conversation explodes, moved to imagine how social media can be different, questioning core assumptions instead of just fretting and complaining—all before this paint even dries," he said on his Ello page. A San Francisco protest is planned against Facebook supporting "drag queens" who lost their Facebook accounts. Ello does not require real names.

Ello's rise comes amid complaints against Facebook from the gays that the social network began disabling accounts using stage names instead of real names. AFP